INSTAR Handbuch
User Manual

IN-5907 HD

/ Wide Dynamic Range 720p CMOS Sensor for adverse lighting conditions

/ Automatic alarm by email and FTP video upload

/ Video recording on SDHC card (up to 32 GB)

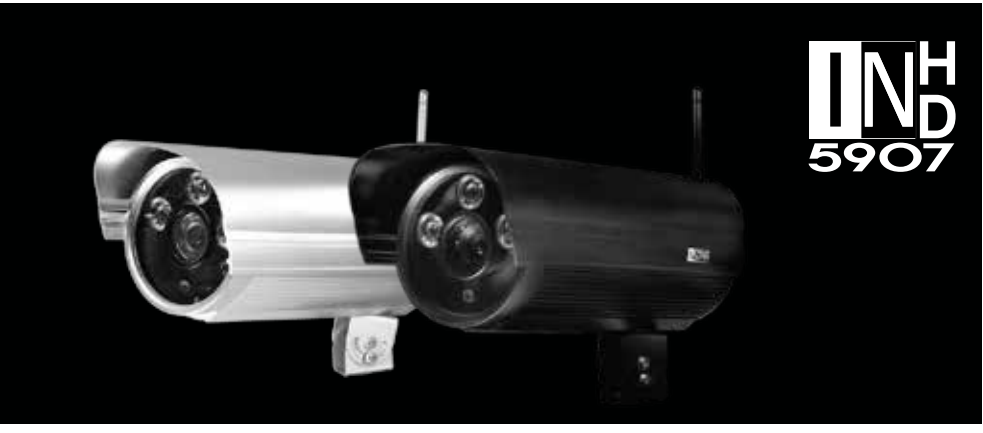
/ Easy camera configuration via the integrated WebUI

/ Multi-level user managment and access control

/ Accessible over the internet via preinstalled DDNS address

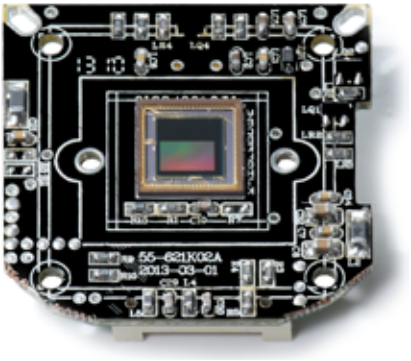
/ Smartphone App InstarVision (iOS, Android, WinPhone, Blackberry, Kindle)

/ Scheduled motion detection via image analysis



Android kompatibel
iPhone kompatibel
LINUX kompatibel
Mac OS kompatibel
Windows kompatibel

Wide-Dynamic Range CMOS Sensor



The OmniVision® WDR Sensor raises the bar in security imaging with a single-chip SOC sensor that combines **720p high-definition video** with WDR in a 1/3-inch optical format.

The sensor is build on a 4.3 micron OmniPixel3-HS™ pixel enabling 720p HD at unparalleled low-light sensitivity and a dynamic range in colour of 115dB - compared to the 60 dB of a regular VGA IP camera. Allowing you to capture detail-rich colour video even in **high-contrast lighting conditions**.

The 1280x720 pixel array provides 720p HD video at 25 frames per second broadening the scope of your surveillance.

INSTAR HD IP Camera – Usermanual

IN-5907 HD and IN-5907 HD PoE

You may always find the most up-to-date camera features, functions and instructions on the powerful INSTAR Wiki: http://wiki.instar.com

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This manual is for the IP camera models **IN-5907 HD** and the **IN-5907 HD PoE**. Unless otherwise noted, operations are identical for both models. All photos and illustrations show the model **IN-5907 HD**.

INSTAR

Your Manufacturer for Network and Security Technology

1 | SAFETY WARNINGS

Please read the following safety warnings carefully and keep them in a safe place.

» Make sure the power cord is not near any hot surfaces.
» Place the power and network cable properly so that no one can be hurt.
» This device shall not be used by people (including children) with limited physical, sensory and mental capabilities. Only a trained person that knows how to use the device carefully should use it.
» Children should be supervised to make sure they don't play with the device.
» If the power cord of this device gets damaged, it can only be replaced by the manufacturer or the customer service person or a similar qualified person to avoid any damage to you and the device.
» Never do any repair by yourself. By opening the device the warranty will automatically expire. If any repair is needed, please contact your INSTAR Service Center.
» When cleaning, please never place the device in water.
» Make sure you only install the device in a 100V - 240V power socket.
» This device is suitable for indoor and outdoor use.
» Only use this device to secure your home, office and similar places. If you are planning to install the device in an public area please make sure you have all certificates to do so.
» Never install the device near explosive or flammable substances.
» Don't use the camera for any other purpose that it isn't made for.
» INSTAR does not give any warranty if you use any third party firmware or WebUI.

CE-Conformity

This device suites the basic requirements of the European regulations for electromagnetic compliance (2004/108/EC) and the low voltage regulations (2006/95/EC).

2 | PRODUCT FEATURES

Hardware

» *Wide Dynamic Range Megapixel* CMOS sensor and ARM media processor

» 3 high powered IR-LEDs for nightvision 15 - 25 m

» Resolution: **720p** (1280 x 720), 640 x 352 and 320 x 176

» Exchangeable 8 mm lense with a 45 ° diagonal field of view

» Automatic **IRcut** filter for realistic colours during the day

» Integrated **SDHC** card slot for MicroSD cards up to 32 GB

Connectivity

» 10/100Mbit ethernet interface to connect to your router or PC

» **WLAN** compatible - 2.4 GHz Wi-Fi 802.11b/g/n (not for IN-5907 HD PoE)

» Remote access your live video with your smartphone (**iOS, Android &WinPhone8**)

» Only the model **IN-5907 HD PoE** can be used via 802.3af *Power-over- Ethernet*!

Software

» **h.264** video encoding for reduced bandwidth requirements

» Video and snapshot recording on MicroSD card is supported

» Video recording by alarm and FTP upload (only with MicroSD card)

» High grade audio compression: G.711 (QT) / G.726 (ActiveX)

» Motion detection alarm notification by email

» FTP snapshot upload - continuous and alarm triggered

Power over Ethernet or **PoE** technology describes a system to pass electrical power safely through the unused lines *4,5,7,8* on the Ethernet cable. The IEEE standard for PoE requires category 5 cable or higher for high power levels. The power comes from a power supply within a PoE-enabled networking device such as an Ethernet switch or power injectors that stand between a regular Ethernet switch and the powered device (**not included**).

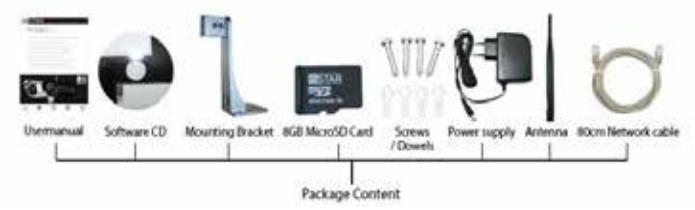
Due to the mandatory Ethernet cable connection all PoE cameras will be **without** wireless LAN (WiFi) support. All sections regarding wireless LAN are only effective for the camera model IN-5907 HD (and **not** for the model IN-5907 HD PoE).

3 INSTALLATION

1	**WiFi Antenna**	5 DBi SMA WiFi antenna (Not available in case of the IN-5907 HD PoE model!)
2	**Infrared-LEDs**	3 IR LEDs 15- 25m nightvision @ 850nm
3	**CCTV Lense**	IR Lense (focal length: 8mm / field of view: 45.º hor.)
4	**Photosensor**	Twilight-Switch for IR LEDs
5	**Wall Mount**	Aluminium camera wall mount
6	**Network Port**	RJ45 LAN-port for the provided CAT5e LAN cable (For the power supply according to IEEE802.3af **only** in case of the IN-5907 HD PoE!)
7	**Audio Out**	Earphone / active speaker port
8	**Audio In**	External microphone port
9	**Reset Button**	Reset your camera settings to the factory defaults
10	**Alarm I/O**	For external motion detectors and house automation (potential free alarm output: max. 60VDC/125VAC and 1A) (The input plug is marked by a "+" and "-" symbol)
11	**Power Connector**	12V / 2 A DC - Plug Ø : 2.1mm (in) / 5.5mm (out)
12	**MicroSD Card**	The card slot is located behind the backplate (a 8 GB MicroSD is pre-installed)

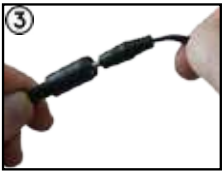
Connect the camera to your Network

Please take out the package content from the box: the camera, a CAT5e LAN cable, a 5 dBi SMA WiFi antenna (not for the *PoE model*), mounting bracket and the software CD.



Connect the **WiFi antenna** to the SMA connector on the back of camera and align it vertically to your router. (see #1, page 5). Please place the camera close to your Wifi router for the rest of the installation process. Please be aware that the camera has to be installed via LAN cable first before it can be used in your wireless network - for an alternative please refer to the included flyer Plug&Play for a WPS integration. ***You can skip this step in case of the PoE model.***

Plug the supplied **ethernet cabel** to the RJ45 LAN port on the camera cable (see #6, page 5) and use it to connect the camera to a free LAN port of your LAN router. For a direct connection to your Windows PC or Mac please refer to our FAQ section onfaq.instar.de. But we recommend to connect the camera to your network router for the initial installation.



Connect the **power adapter** to the camera cable (see #11, page 5) and plug it into a suitable power outlet. Both network indicator LEDs on the network port will light up showing that the camera is connected to your network. This step is optional for the PoE model which can be used over PoE as well as via the included power supply.

The **orange LED of the LAN port** signals a hardware link to your router and therefore should be on continuously. The **green LED** should be flashing irregularly indicating network traffic. The green status LED on the power supply has to be on continuously indicating a steady power supply. Please plug the power supply directly into a wall socket. Using it on a multi-power strip or an extension cord is not recommended.

Troubleshooting

The status LED of the LAN port isn't on
Your camera doesn't have a connection to your router because the LAN cable is damaged, the connector is loose or your camera is connected to a wrong port on your router or switch.

The status LED of the LAN port goes on and off every x seconds
Your camera is continously restarting - possibly because of a loose contact. Please check the power connector on the camera side. Turn the plug by 180 degrees in both direction and check if the problem persists. Make sure the green status LED on the power supply is on continuously.

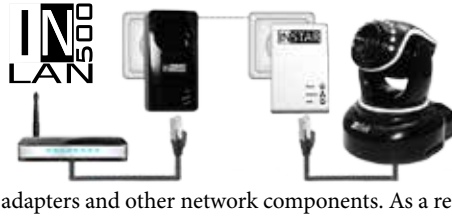
For a direct cable connection between camera and computer, please note:

The network cable provided with the camera is not a crossover cable. It is just a normal patch cable. Most modern computers network interfaces support the automatic switching between crossover and normal patch cable - you can use the cable that came with the camera to connect it directly. If you are using an older system to connect your camera directly you might need a crossover network cable.

To set up the camera for the first installation, we recommend to connect the camera directly to your router. This router on the other side has to be connected with your computer. Other ways of connections are only recommended for experienced users. Please refer to our online documentation on http://faq.instar.de.

Connect the camera using an IN-LAN® Adapter *(optional)*

Simply plug one IN-LAN adapter into a power socket next to your broadband router and connect the adapter to your router via an Ethernet cable. Plug the second IN-LAN unit into an outlet close to your INSTAR camera and connect the camera to the IN-LAN adapter using the camera's Ethernet cable.



IN-LAN 500/p
Powerline Adapter

IN-LAN uses the household power grid to transfer data between computers equipped with suitable adapters and other network components. As a result, any power outlet can be used as a network access point. IN-LAN is an intelligent and secure technology that lets you set up a home network easily via your household power grid - without the need of complex and expensive dedicated cabling.

Additional accessories, like the IN-LAN Adapter, can be found in the accessories of your camera model on www.instar.de.

4 START UP

To install your camera please open the installation CD or simply go to http://install.instar.de. Please follow each step for an easy first setup of your camera. To find the camera in your network we provide you with a free Windows, MacOS and Linux tool that allows you to find, update and open your camera on your computer. As an alternative you can also use an IP scanner or check inside your router to find out the ip address of your new ip camera.

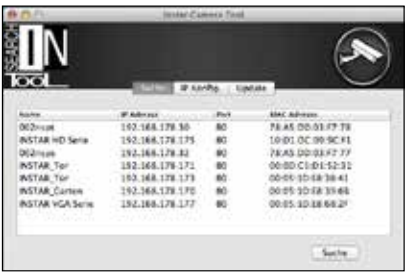
4.1 NETWORK INSTALLATION

1. Please start the setup wizard from the CD and install the INSTAR Camera Tool linked on the CD for Windows, LINUX or MacOS. (You can find documentations for the use of other IP scanners on http://faq.instar.de)

2. Please start the INSTAR Camera Tool.

3. The camera tool will automatically find all INSTAR IP cameras in your network and will show their IP address.

4. In case your camera isn't found right away please wait 10 to 15 seconds for your routers DHCP service to assign an IP address to your camera.



5. Double-click the camera's IP address inside the camera tool to open the web user interface (webUI) with your default browser and you will be greeted by the camera's login window. If so, please skip the following paragraph and go straight to **4.2 LOGIN** (see page 11).

Troubleshooting:

In case the INSTAR Camera Tool doesn't find your INSTAR IP camera please make sure that the status LED for the LAN connector is active. For troubleshooting please check on page 8 in this user manual.

In case your camera isn't automatically assigned an IP address, the camera will be shown inside *a wrong* IP address space. A double click on the camera's IP will then open the IP / Network configuration window (*see below*) allowing to manually assign an address.

Please set the following information according to your network:

- **IP Address** (for example 192.168.x.x)
- **Subnet Mask** (for example 255.255.255.0)
- **Gateway** (IP Address of your router; for example 192.168.x.1)
- **DNS Server** (IP Address of your router; for example 192.168.x.1)
- **Http Port** (TCP Port; for example 80)

To check the IP address of your Windows computer and your network parameters please do the following:

① Click on [START] -> and type in "cmd" into the search field.
② In the window that pops up please type "ipconfig".
③ Now the IP address and the subnet mask will be shown.

Ethernet adapter Local Area Connection:
Connection-specific DNS Suffix . : fritz.box
Link-local IPv6 Address . . . . . : fe80::4d73:fc13:dc1b:5018%
IPv4 Address. . . . . : 192.168.178.93
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.178.1

EXAMPLE:
If your gateway is “192.168.178.1”, please fill in the camera information accordingly:

- **IP Address** of the Camera: 192.168.178.190. (“190” is just an example)
- **Subnet Mask:** 255.255.255.0
- **Gateway:** 192.168.178.1
- **DNS Server:** 192.168.178.1
- **Http Port:** 80 (default port, can be changed)

How to setup your camera without a router:

If you want to connect your camera directly to your computer, please set a fixed IP address for the network interface in your computer, as well as for the IP camera. You can set the camera IP by using the INSTAR Camera Tool. As for Gateway and DNS server please fill in the computer IP. After submitting the settings to the camera please wait a moment until the camera has restarted. For a detailed instruction please refer to our FAQ section on http://faq.instar.de

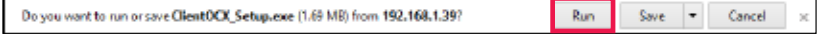
4.2 LOGIN

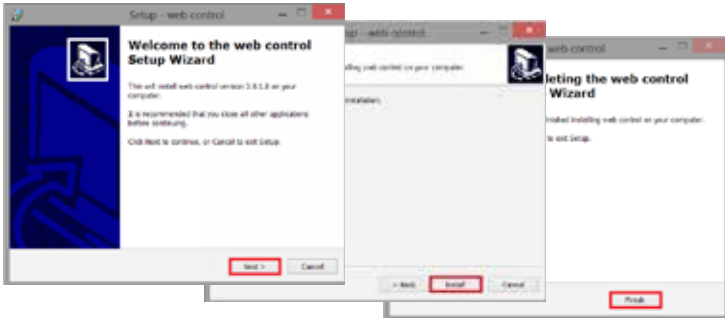
For the first installation of the camera please log in with the following username and password:

user: **admin**
password: **instar**

4.3 PLUGIN INSTALLATION (only Internet Explorer)

4.3.1 After the login (**Internet Explorer**) you will be asked to install the ActiveX control element. Please run it and confirm when your Internet Explorer is asking you to install the control element:

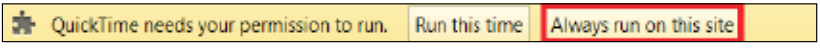




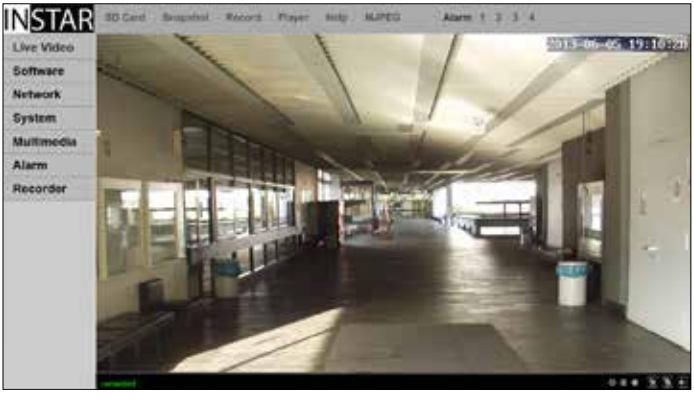
After the installation, please restart your Internet Explorer, a window will pop up as below. Please press "Allow" to run the ActiveX control element in your web browser:

This webpage wants to run the following add-on: 'WebClient ActiveX Control Module' from 'Not Available'.
What's the risk?
Allow

4.3.2 Accessing with other browsers (Firefox, Chrome, Safari,...)
In order to access the live video stream through other web browsers, please install the Quicktime Player. Please follow the enclosed A5 Quick Installation manual.
Also check the FAQ section at the end of this user manual (chapter 13) or visit the FAQ section on http://wiki.instar.de for more detailed instructions.



5 | THE WEB USER INTERFACE



5.1.1 SOFTWARE/LANGUAGE

Here you can choose the language of the web user interface. The web user interface will reload after you click *submit*.

5.1.2 SOFTWARE/REBOOT-RESET

Here you can check the user interface and firmware versions. To restart or reset your camera simply check the corresponding box and click **submit**. To avoid an unwanted reset, a remark will be show in a new window and you need to confirm the command a second time after a **10 seconds** countdown.

5.1.3 SOFTWARE/BACKUP

To save your camera settings please check the corresponding box and click **submit** and you will be asked for a file path and name. The default is *config_backup.bin* and the file path is the download folder of your browser. To restore the settings check "**Load Backup Copy**", browse for the backup file and click **submit**.

5.1.4 SOFTWARE/UPDATE

You can download regular software updates for your camera from http://download.instar.de. Please use the browse button to set the file path to the downloaded *.PKG file and click "**Submit**" to upload the file to your camera. Use the update function only when the camera is connected to the router by **LAN cable**!

5.2.1 NETWORK/IP CONFIGURATION

You can set whether the camera will be assigned an IP address by your router (DHCP) or you want to manually set a fixed address. Please check **page 9 &10** on how to set a fixed IP address. In general, we recommend that you **deactivate** the automatic service and set a manual IP to avoid further trouble with the remote access to your camera. For the RTSP Port please refer to **10. RTSP Streaming** for details on the use of the camera´s RTSP videostream.

5.2.2 NETWORK/WiFi (not applicable for PoE Model)

If you cannot use the WPS service (**W**ireless **P**ortected **S**etup) to integrate the camera into you local WiFi network - *see included flyer Plug & Play for further information for the WPS function* - click search to start the WLAN scanner. Just choose your own network and click "Join". Now you simply have to add the WiFi password (WLAN Key) and click *submit* to save the settings. Afterwards you can use the **Test** function to verify your settings. Please disconnect the LAN cable and wait about 30-60 seconds for the camera to connect to your WiFi network. The camera will receive a new address from your router if you didn't assign a static IP address to your camera previously (**Chapter. 5.2.1**), therefore you should use the INSTAR Camera Tool again to rediscover your camera (**Chapter 4**).

Attention:
Your WiFi modules MAC address is **not identical** with the LAN MAC address of your camera! If you are using a MAC filtering rule for your WiFi network, please deactivate the filter and add your camera to the list of trusted devices before reactivating it.

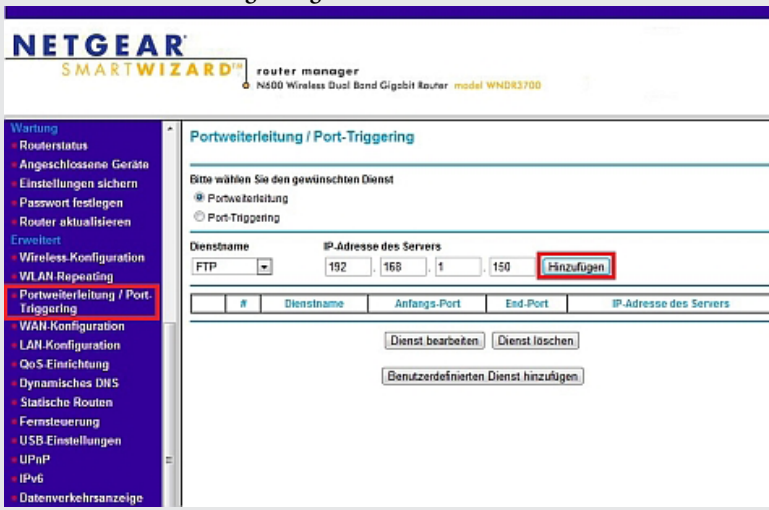
Additional Remark:
Your camera supports a range of encryption standards - we recommend for the safety and reliability of your connection - that you set your WiFi network to WPA2 (PSK) with AES (or CCMP). With older routers choose WPA (PSK) / AES. Avoid using a mixed mode like WPA&WPA2 - TKIP! If your WiFi stays unstable please choose a fixed WiFi channel for your router - we recommend the channels 1 - 6.

5.2.3 NETWORK/DDNS

Your camera comes with a personal DDNS address - e.g. http://xxxx77.ddns-instar.de. Everything you need for a remote access to your camera is a **port forwarding** rule in your router. You can access your camera afterwards through the internet using this http address.

Please refer to FAQ Chapter #13. 4) for port forwarding or visit our online FAQ section on http://faq.instar.de for detailed information on the port forwarding setup as well as video instruction for many common routers. Or refer to your router's user manual for further guidelines on how to set up a port forwarding rule.

EXAMPLE Portforwarding - Netgear:



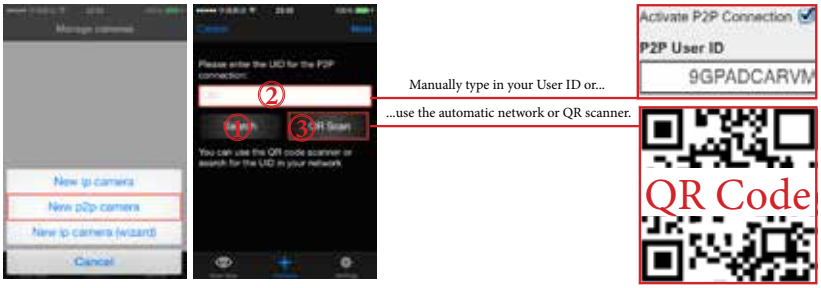
Please refer to our online help http://faq.instar.de for detailed instructions for all commen routers.

In case you want to use an account from DynDNS.org simply choose the third party service and type in your personal login credentials. By doing so you will temporarily **deactivate** your INSTAR DDNS address.
If you are using several cameras behind a single internet access point, please set up the third party address in **only one** of the cameras. Or if possible directly inside your router! All your cameras will be accessible through this address - just assign a unique HTTP port to every camera (s. **5.2.1**). For example if *camera 1* is assigned the HTTP port 85 and *camera 2* the HTTP port 86, use *myaddress.dyndns.org*:**85** to reach *camera 1* and *myaddresse.dyndns.org*:**86** to be forwarded to *camera 2*.(more details please see FAQ)

5.2.4 NETWORK/P2P (Point-to-Point)

Activate the P2P function to access your camera from the internet without the need for a port forwarding in your router (**s. 5.2.3**). Simply add the camera as a P2P camera in our **InstarVision app** (**s. 8**), scan the QR code on the Network/P2P overlay in the webUI or from the label on the camera and add the cameras **administrator login** (**s. 4.2**).

You can access your camera even **behind an IPv6 connection or mobile Router** (UMTS/LTE, with changing WAN IP)! Use the P2P function to access your camera from the internet, when you cannot set a port forwarding for the camera that is necessary for the DDNS service (**s. 5.2.3**).

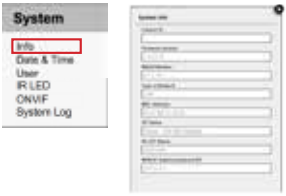


There are 3 ways to connect your camera with the INSTAR App
①Tap the "**Search"** button to find the p2p camera inside your local network
②**Type in the "UID"** from the camera´s web UI or from the label on the camera case.
③Click **QR Scan and use your smartphone** to scan the QR code on the webUI or on the label that you can find on the camera casing.
Please note that the QR code in the webUI and on the product label both contain the **UID, camera model, admin username and password** for a quick setup. Please note that the username and password on the product label are only default settings (s.4.2), while the webUI QR code will be always up-to-date with the log-in credentials. We recommend that you change the administrator password of the camera (**s. 5.3.3**) and use the QR code from the webUI. Please restart the camera after changing the password.
ATTENTION: The P2P connection ONLY works with the admin user!

5.2.5 NETWORK/UPnP

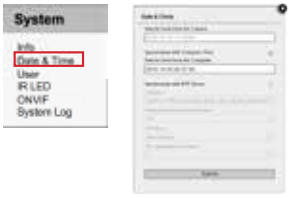
If you are using **U**niversal **P**lug a**n**d **P**lay(UPnP) for your network devices, please activate the UPnP service in your camera. In case you are using a manual port forwarding rule in your router to access your camera from the internet, make sure the cameras UPnP service is deactivated! We recommend setting up a manual port forwarding.

5.3.1 SYSTEM/INFO



The *Device Info* menu gives you an overview of several important camera parameters - like your software version and connection status.

5.3.2 SYSTEM/DATE & TIME

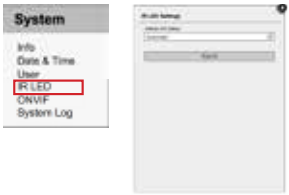


You can set up the internal clock of the camera to be either synchronised with your PC clock or with one of several NTP servers. As long as your camera has access to the internet it is recommended to use an NTP server synchronisation to achieve a higher accuracy for alarm trigger events. Please activate "Consider Daylight Saving Time" when in effect.

5.3.3 SYSTEM/USER

The web user interface offers a 3-level user management with different access rights for administrators, users and guests. You can set user names and passwords for all three user levels in the **Users** mask. *Guests* and *Users* will only have access to the videostream of the camera and only the *Administrator* will have access to all the camera's configuration menus.

5.3.4 SYSTEM/IR LED



Here you can adjust the behaviour of the infrared LEDs of the camera. You can choose between 2 modes in which the LEDs are either always off or automatically switched on by a photodiode when it is getting dark.

5.3.5 SYSTEM/ONVIF

ONVIF is a global standard for the interface of IP-based security products. The ONVIF specification will ensure interoperability between products regardless of manufacturer, allowing you to integrate your INSTAR camera as a generic ONVIF camera into existing security systems.

5.3.6 SYSTEM/SYSTEM LOG

The System log shows general notifications for the state of the cameras operating system .

5.4 | MULTIMEDIA

5.4.1 MULTIMEDIA/AUDIO

Here you can adjust the volume of the cameras integrated microphone and speaker.

5.4.2 MULTIMEDIA/VIDEO

The video settings allow you to adjust the quality of all 3 videostreams of your camera. Please be adviced that high quality settings come with high requirements for your computer hardware and network bandwidth. Adjust the video quality to obtain a fluent video accordingly. Please refer to **chapter 10: RTSP Streaming** for accessing the cameras streams 2 and 3.

The MJPEG mode of the camera allows you to access the videostream with your browser **without** the need of **additional browser-plugins**! You can use the MJPEG mode when you are accessing the camera from a system that doesn't allow you to install the ActiveX control element or the QuickTime plugin for Firefox, Chrome or Safari. Please consider that this mode is only for viewing the live image of your camera. Even with only one user logged in your cameras framerate might drop below **4 fps** because of the high bandwidth requirements!

5.4.3 MULTIMEDIA/IMAGE

Here you can adjust the image parameters brightness, saturation, contrast, exposure (shutter) and sharpness. You can flip and mirror the video image, can display a timestamp and set a camera name and display it as well. The displayed parameters are burnt into the camera image. Please make sure to restart the camera after changing the name.

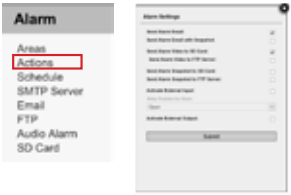
5.5 ALARM

5.5.1 ALARM/AREAS

Your camera detects motion by a picture analysis that is sensitive to every change inside the video frame instead of employing an infrared or microwave sensor. In "Areas" you can adjust up to 4 detection areas in size and sensitivity for trigger event. Once the motion detection in an area is activated, its **sensitivity** can be adjusted from very insensitive (value=0) to very sensitive (value=100).

In case the camera's position is prone to rapid light changes, e.g. changes in sun intensity due to cloud movements, you might be confronted with a high number of false alarms. In this case please refer to 5.5.2 for employing external PIR motion detection sensors.

5.5.2 ALARM/ACTIONS



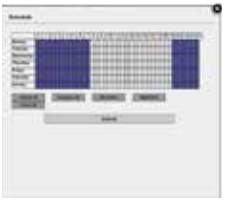
Adjust the cameras behaviour in case of a motion alert trigger event. You can set the camera to send you an **email** and to save snapshots or videos on your **SD card**. Please make sure you set your SMTP server settings before activating the email notification (**s. 5.5.4 & 5.5.5**) and that you have a SD card in your cameras SDHC card slot (max. 32 GB) to use the video recording and send-to-FTP function (**s. 5.5.6)** - a 8 GB SD card is included in the delivery.

For video as well as picture recordings the camera will create a folder on your SD card with the date of the current day. If the SD card is full, the oldest day/folder will automatically be deleted and with it all recordings in this folder. The bigger your MicroSD card is, which you install in the camera, the more days (recordings) you can save on the SD card. The camera automatically records videos with a length of 15 seconds. Since the camera also supports prerecording, 2-3 seconds will be added to the recording. This way you will be able to see 2-3 "before" the actual alarm event is happening.

You can use a motion detector like the IN-Motion 500 (outdoor) to improve the detection rate of your camera. Simply connect the sensor to the alarm input and activate the external input. An alarm will be triggered once the circuit (pins 3&4 - see page 5) is broken by the relay inside the detector (n.c. "**N**ormally **C**losed") or if the wire is disconnected. The state you have to choose depends on your sensor - the wrong choice will give a continous alert once the detector is connected. Please refer to the Motion Detector user manual.

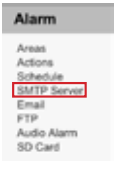
The external output connects to a relay inside the camera that can be switched manually or automatically in case of an alarm event. Please check **Activate External Output** to let the camera open or close a circuit with an external device connected to the pins 1&2 (***s. page 5***). The external output can be used with the cameras motion detection to activate signaling devices like sirens or LED lights. It can also be used to control connected devices manually, e.g. via our smartphone app. The relay can be connected to circuits with up to 60 V direct current / 125 V alternating current and max. 1 A.

5.5.3 ALARM/SCHEDULE



Here you can define a time schedule in which the motion detection, that was set in **5.5.1** and **5.5.2,** should be active. Every blue square represents 30 minutes of motion detection. Please make sure to set the correct time zone in **5.3.2** as it will be used by the camera.

5.5.4 ALARM/SMTP SERVER

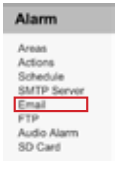


You have to fill in your SMTP login credentials of your personal email account to enable your camera to send you a notification email in an alarm trigger event. Simply use the same login information that you use for email clients like Microsoft Outlook or Mozilla Thunderbird. The SMTP user name and password are the same that you use to login to your email account. Please check your email provider's homepage for the SMTP server address, server port and encryption:

Gmail - smtp.googlemail.com (SSL; Port 465 or 587)
GMX - mail.gmx.net (SSL; Port 25, 587 or 465)
T-Online - smtpmail.t-online.de (Port 587 or 25)
bluewin.ch - smtpauth.bluewin.ch (Port 587)
Strato - smtp.strato.de (Port 25)

The camera will use this email address to send you alarm notification. You can set the email recipient under **5.5.5**.

5.5.5 ALARM/EMAIL



Here you need to input the sender, the receivers, the subject as well as optional a short email text of maximum 64 characters. The sender address should be in accordance with the SMTP server data (s.**5.5.4**), though some email provider let you choose this field freely. If you want to send the email to more than one address, simply separate the addresses with a semicolon ';'. E.g. max.mustermann@instar.de;franz.fingerhut@instar.de

5.5.6 ALARM/FTP

After activating the FTP upload function (s.5.5.2 Actions), you have to set your ftp server address and login credentials. You can for example use your routers FTP service as **FTP Server** - in this case simply put in your router's IP as the FTP Server address. If you set up a FTP server on a local PC (for example with *Filezilla Server*), use the PC's local IP address. Of course you can use a webservers URL's as well. The standard **FTP port** is 21.
You can define an upload directory for your camera under **FTP Folder**. The root folder of the FTP server can be reached by "./". The separator for the folders is the forward slash. A subfolder (e.g. INSTAR) can be reached by "./INSTAR". An ending forward slash is not obligatory, but can be used.

The **FTP Username** and **FTP Password** are the login credentials for your FTP account.

For the **FTP Mode** you can choose between a passive (PASV) and an active mode (PORT). The default is the active PORT mode. If your server is installed behind a router with an active network address translation (NAT), or if a firewall is blocking the server's network from an external access by your camera, you should choose the PASV mode.

The name of the video file is fixed and corresponds to the following syntax: rec011_YYYYMMDDhhmmss.asf. The first part show the channel 11 for recording. Separated by an underscore it shows the timestamp, which marks the time of the motion detection.

Please refer to our website for information on how to set up a FTP server.

5.5.7 ALARM/AUDIO ALARM

The camera can also detect loud noises and cause an alarm. Therefore, simply enable the audio alarm and set the sensitivity for the volume that needs to be reached in order to trigger an alarm.
1 = not sensitive
10 = very sensitive

5.5.8 ALARM/SD CARD

Please check the corresponding box and click *submit* to either **format** or **unmount** your SD card.

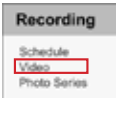
A click on the link above the submit button will lead you to the SD card **directory** where all your snapshots and videos will be stored. Use your camera admin login to access the directory.

5.6 RECORDING

5.6.1 RECORDING/SCHEDULE

Here you can set the schedule for the photo series as well as for the continual video recording to SD card. Every blue box represents 30min of activity. The recorded files will be stored to the camera's internal SD card. The file name will start with a capital "P" to differentiate them from alarm recordings "A" and test images that start with a "T".

5.6.2 RECORDING/VIDEO



In this menu you can activate the continuous video recording to SD card. Here, you can set the video lengths and video resolution. The max. time per file is 15 minutes.

For this function we recommend you to use a larger size MicroSD card (max. 32GB) in order to prevent the card from being overwritten too soon.

5.6.3 RECORDING/PHOTO SERIES

Here you can activate the recording of a snapshot series in a selectable span of time. The snapshots will be saved to a SD card which has to be in the camera's SDHC slot (a 1 GB SD card is included in the delivery). The JPG snapshot can later be accessed via the web user interface (s. **5.7.1**). For FTP upload, if you do not set a fixed name, then the file name will be set according to this format: PYYMMDDhhmmss00.jpg.

5.7 | MENU BAR

5.7.1 MENU BAR/SD CARD

Click on the SD Card to open the SD card's directory in a new browser window or tab - all your snapshots and videos will be listed. Use your camera admin login to access the directory.

5.7.2 MENU BAR/SNAPSHOT

Click on Snapshot to save a single JPG snapshot of the current video frame. For Internet Explorer, the snapshot will be saved locally in the subfolder **Snap** under the record path that is set in **5.8.4 (only Internet Explorer).** Otherwise the snapshot will be opened in a new browser window or tab and can be saved from there. You might have to set the cameras address (local IP or DDNS address) as a trusted site inside the **Internet Options** of your Internet Explorer to allow write access to your harddisk!

5.7.3 MENU BAR/RECORD *(**only** Internet Explorer)*

Click on *Record* to manually start a video recording. The video will be saved in the subfolder "*Record*" under the record path that is set in **5.8.4**. You will see the **red indicator** in the video menu when the camera is recording. You might have to set the camera's address (local IP or DDNS address) as a trusted site inside the **Internet Options** of your Internet Explorer to be give write access to your hard disk!

5.7.4 MENU BAR/PLAYER *(**only** Internet Explorer)*

By clicking on *Player* you can start a simple video player to play your recorded video files.

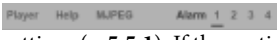
5.7.5 MENU BAR/HELP

Clicking on *Help* will bring you to our constantly expanding online FAQ section on www.instar.de.

5.7.6 MENU BAR/MJPEG (H.264)

Here you can switch between the camera's H.264 and MJPEG videostream - see also **5.4.2**. If you are using the IE web browser, the function **Record** and **Player** is only supported in the H.264 mode.

5.7.7 MENU BAR/ALARM



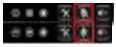
Clicking on *Alarm* activates or deactivates the alarm settings (s. **5.5.1**). If the motion detection is armed the letters will be displayed in red.

5.8 VIDEO MENU BAR

5.8.1 VIDEO MENU BAR/AUDIO *(**only** Internet Explorer)*

Click here to activate the camera's integrated microphone or speaker. You can adjust the volume of the audio signal under **5.4.1**.

5.8.2 VIDEO MENU BAR/MICROPHONE *(**only** Internet Explorer)*



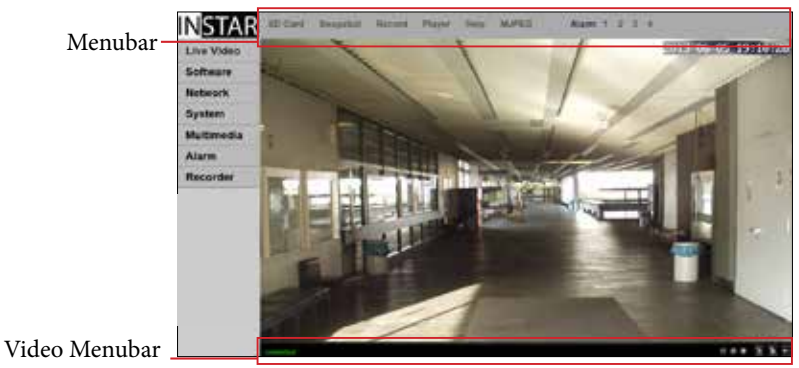
In case your PC is equipped with a microphone, click here to activate the audio-out of your camera.

5.8.3 VIDEO MENU BAR/DIGITAL ZOOM *(**only** Internet Explorer)*

Click here to adjust the cameras 3 x digital zoom.

5.8.4 VIDEO MENU BAR/RECORD PATH *(**only** Internet Explorer)*

Here you can set the record path for your videos and snapshots. The set path is used by **all** your INSTAR Megapixel Cameras! Your camera will automatically create subdirectories with the current date and its IP address when you start recording or take a snapshot. All snapshots will be saved in the subdirectory "*Snap*" and all videos in the subdirectory "*Record*".
Note that you have to add the cameras IP or DDNS address to the trusted sites in your web browser.



5.9 WEB USER INTERFACE UPDATE

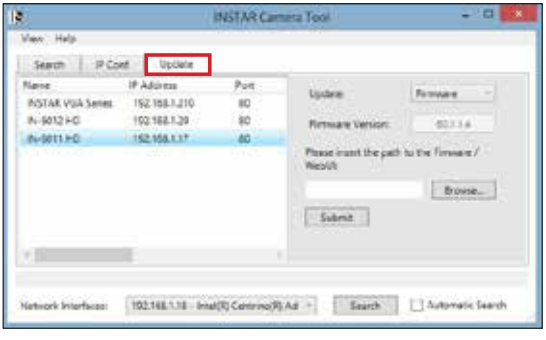
How to upgrade to a new WebUI or Firmware

Please download the newest version of the WebUI or Firmware from our website. Please follow the link below to our homepage´s download section:

http://download.instar.de

Simply select your camera model, scroll to the bottom part of the website and choose the newest Software/Firmware for your IP camera.

The firmware file can be uploaded to your camera via the web user interface (s.5.1.4) or by using the INSTAR camera tool.



6 RESET YOUR CAMERA

In order to reset your camera (if you have lost your password), please hold the small camera reset button for min. 15 seconds. Make sure the camera is connected to the power supply. If a reset was incomplete the camera might become inresponsive. Please repeat the reset for **min. 15 s** and unplug the camera **over night** from the power supply before trying to restart it again.

7 | LENSE ADJUSTMENT

The IN-5907 HDs lense offers a limited field depth that was adjusted to a field between 1m to 10m. In case the object you want to observe lies outside of this area, you will have to adjust the lense accordingly. Simply open the camera from the front and turn the lense until you can see the area of your surveillance coming into focus in the web user interface.

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig.1 First remove the top cover by gently pushing it to the back. Hold the camera case and remove the front cover by turning it counter clockwise.

Fig. 2 Then **only** remove the **3 outer screws** (not the 2 inner screws).

Fig. 3 Gently pull out the inner parts. Then loosen the **screw on the side of the lense** which fastens the lense to it outer mount.

Fig. 4 Launch the WebUI on your computer. While keeping an eye on the camera screen, turn the **top part of the lense** (be careful **not** to loosen the lenses lower part from the sensor mount) until the area under surveillance becomes clear. Tighten the screw from Fig.3 to fix the lense and reassemble the camera.

8 | Android, WinPhone and iOS App

To integrate your IP camera in the App "InstarVision" we recommend to first download the newest version in the App Store. To find the newest version just type "instar" for the search.

(**Fig. 1**) After installing the newest version please start the app to open the following interface (s. next page).

(**Fig. 2**) Now press the "New camera" button and type in all necessary data for your IP camera.

(**Fig. 3**) Adjust your camera's parameters over the apps user interface.

(**Fig. 4**) Press a channel to access the corresponding livestream and take control over your camera.

Fig. 1

Fig. 2

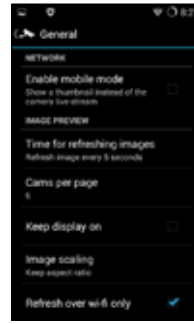


Fig. 3

Fig. 4

Here you find a short overview of all necessary settings (Fig.2):

Name: Please choose a name for each camera so you can differenciate between your cameras.

Host/IP Address: Here you have to type in the IP address of the camera or the DDNS address (see **5.2.3**).

Port: Type in the HTTP Port which you assigned to your IP camera. The standard Port is “80”.

Username: The username with which you log in to your camera. The admin account name is “admin”.

Password: The password with which you log in to your camera. As default the password is “instar”.

Model: Please choose your INSTAR camera model.

Now please choose “Save” to save the settings and to return to the home screen (**Fig.1**).

sold separately

InstarVision® is a 16/32 Channel Video Surveillance Software for Windows (the number of available channels depends on your license!) The Software can record the live stream of any Webcam, TV Cards, Video-Recording Cards (DVR), INSTAR IP Camera or other devices with up to 30 fps.

InstarVision® covers below features:

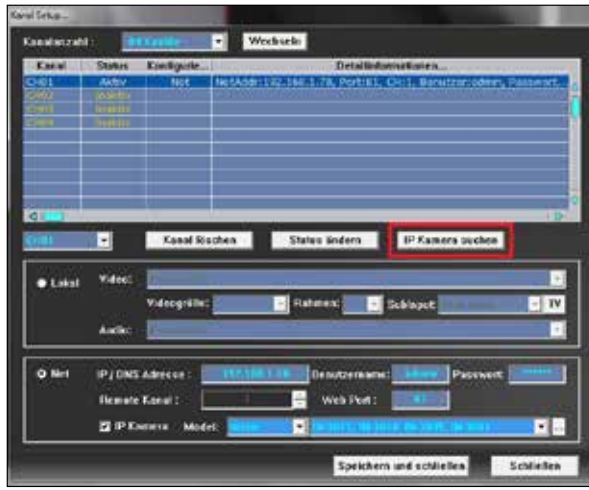
1). Advanced motion detection algorithm with a mask matrix – free adaption of the motion detection mask with a 64 square resolution inside the picture.
2). Multiple ways of notification are available in case of an alarm - by email, FTP upload, acoustic alarm or by 3rd party software triggering.
3). Easy integration of the camera's audio & video stream into websites - present your live video to friends, family or customers through your homepage.
4). Support for multiple video output formats: such as MP4, MOV, FLV, SWF, WMV and AVI and video codecs like H.264, MPEG4 and WMV3.
5). An affordable price and all the functions necessary to achieve your camera's full potential.

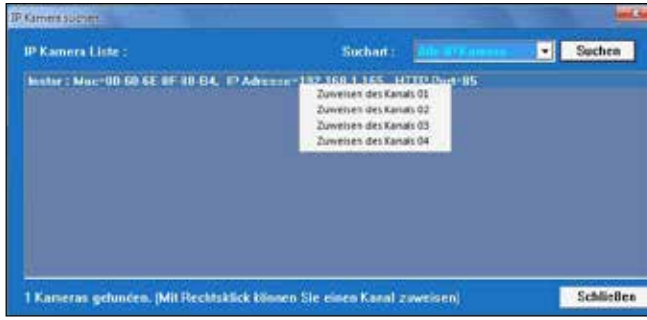
A detailed online manual can be found on www.wiki.instar.de and a 7-day trial version can be downloaded from our homepage http://download.instar.de.

Add your INSTAR Camera to the InstarVision® Surveillance Center:

To integrate a camera in InstarVision it doesn't take much. We recommend that you give your camera a static IP address to prevent it from changing automatically by the DHCP server. (s. 5.2.1).

Afterwards please open the channel setup window and choose Search IP Camera to start the Camera Tool. Click on search to discover all INSTAR cameras inside your local network and right-click the cameras to assign it to a channel. The number of available channels can be set in the channel setup window.





(e.g. VLC Player, iSpy..)

To use third party software you usually need the direct path for the live video in order to grab the video from your camera. Then the program is able to grab the video stream from your camera to work with it. You can find step-by-step instructions for several software on our help pages on www.instar.de .

Access over your local network:
Please use the following path to use your camera with third party software:

RTSP **Stream 1**: rtsp://<user>:<password>@192.168.x.x:<RTSP Port>/11
RTSP **Stream 2**: rtsp://<user>:<password>@192.168.x.x:<RTSP Port>/12
RTSP **Stream 3**: rtsp://<user>:<password>@192.168.x.x:<RTSP Port>/13
JPG **Path**: http://<Benutzer>:<Passwort>@192.168.x.x/tmpfs/snap.jpg

Please use your camera login for the *user* and *password* values:
E.g.: *rtsp://admin:123456@192.168.1.25:554/11*

Just substitute the "x" according to the IP address of your camera (in case of a Netgear router the first x = 1 and and the second x = the end octet of your camera's IP). If you changed your RTSP port (standard = 554) please change the value after the IP address accordingly.

Attention: To access the cameras RTSP stream through the internet you will have to forward the RTSP port (standard = 554) to your camera's IP address. See **chapter 5.2.3** and the forwarding procedure for the LAN (HTTP) port (standard 80) for reference.

Access via internet:
Please use your DDNS address to remote access your camera's RTSP stream:

rtsp://<user>:<password>@xxx.ddns-instar.de:<RTSP Port>/11

xxx = please check your personal DDNS address under network/DDNS (s. **5.2.3**)

Tip: Your camera offers you 3 RTSP streams with different bitrates. Please choose stream 2 or 3 if your available bandwidth is limited or you are using a computer with limited processing power (e.g. netbook). You might encounter this problem especially when accessing your camera via the internet, since normal DSL connections have a relatively low upload rates.

11 TECHNICAL DATA

Image Sensor	
Sensor	1/3 "Megapixel WDR CMOS
Resolution	max. 1280x720 Pixel (1.0 Megapixel)
Lense	f = 8 mm; F/1.2 (IR Lense)
Angle of View	45 ° diagonal
Min. Illumination	0.5 Lux @ F/1.2
Video Properties	
Video Encoding	h.264/MPEG-4 AVC (Level3)
Alternative Encoding	MJPEG (no plugins needed)
Video Framerate	Up to 25fps
Supported Resolutions	1280 x 720, 640 x 352 and 320 x 176
Bitrate	90 kbps ~ 6.144 kbps
Flip/Mirror Image	Horizontal / Vertical
Video Settings	Brightness / Contrast / Saturation
Communication	
Network Interface	10Base-T/100Base-TX Ethernet Port
Supported Protokols	TCP/IP, HTTP, SMTP, RTSP, FTP, DHCP, DDNS, UPNP, NTP
Wireless (**not** in the PoE version)	2.4 GHz 802.11b/g/n
WPA/2 Encryption	TKIP / AES (CCMP)
PoE Standard (**only** in the PoE version)	IEEE 802.3af *Power-over-Ethernet*
Hardware	
Infrared LED's	3 HP LED's / 15-25m effective range
SD Card Reader	For microSDHC cards up to 32 GB
SD Card	8 GB microSDHC included
Power Supply	DC 12V / 2A (50-60Hz/110-220V)
Power Consumption	max. 13 W (5W in normal operation)
Operating Temperature	- 5°C to 55°C
PC System Requirements	
CPU	2GHz or above
System Memory	2 GB or more
Graphic Card Memory	1 GB or more (z.B. GT425M or similar)
Supported Operating Systems	Windows XP / Vista / 7 / 8, Mac OS, Linux, iOS, Android

Warranty

INSTAR offers a 2-year warranty on its products. During this period you can send in your camera for a free repair (shipping the defective hardware to INSTAR will be paid by the buyer). This excludes cameras installed with custom-made or 3rd party Firmware and WebUIs which have not been approved by INSTAR. The warranty is only for hardware parts of the camera.
If you are contacting our service team please keep your model and serial number ready. If you want to send your camera for repair, please use the RMA form that came with your camera. You can also download it from our website www.instar.de or contact the INSTAR Service Team.

You can find your INSTAR SERVICE CENTER at the following destination:

Company:
INSTAR Deutschland GmbH
Raiffeisenstraße 12
65510 Hünstetten Bechtheim
Germany

Hotline: +49 6438 9198 992
(Mo - Fr, 8 – 14 o'clock GMT+1)
Website: www.instar.de
Email: support@instar.de

WE WILL HELP YOU ANY TIME AFTER YOUR PURCHASE!

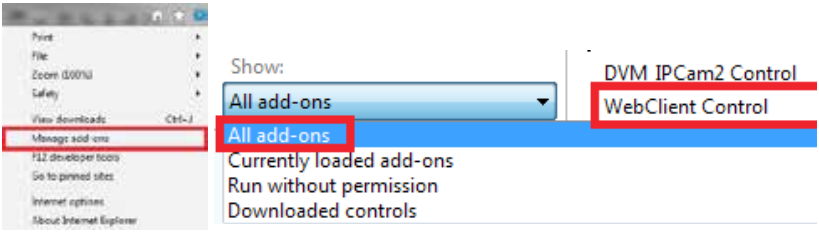
Disposal of old electrical appliances

The European Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE), requires that old household electrical appliances must not be disposed of in the normal unsorted municipal waste stream. Old appliances must be collected separately in order to optimize the recovery and recycling of the materials they contain and reduce the impact on human health and the environment. The crossed out "wheeled bin" symbols on the product reminds you of your obligation, that when you dispose of the appliance it must be separately collected. Consumers should contact their local authority or retailer for information concerning the correct disposal of their old appliance.

Questions & Answers

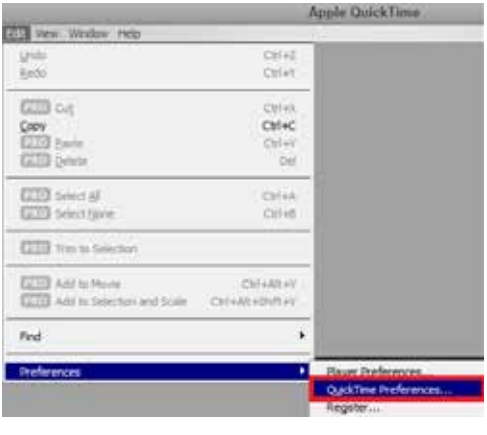
1) The video doesn't start in Internet Explorer?

Please make sure that you installed the Active Control Element (s. page 11). You can always install the element manually from the software CD in case the automatic installation doesn't work. To check whether the installation was successful, please open the "Manage add-ons" window in the "Extras" menu of your Internet Explorer and choose "All add-ons" - the element *WebClientControl* has to be listed as ***active***.



2) The video doesn't start in Firefox, Chrome or Safari?

You need the QuickTime plugin to play the video. Please install the QuickTime Player from www.apple.com/quicktime and allow the camera web user interface to use the plugin when asked. In case the video doesn't start right away open the QuickTime Player and set the Transport Protocol to **HTTP** and the Port ID to **80** (s. below).



The QuickTime plugin is preconfigured to buffer the videostream for 3 seconds - you will therefore, always encounter a **3 seconds delay** in your video display!

3) Lost your password?

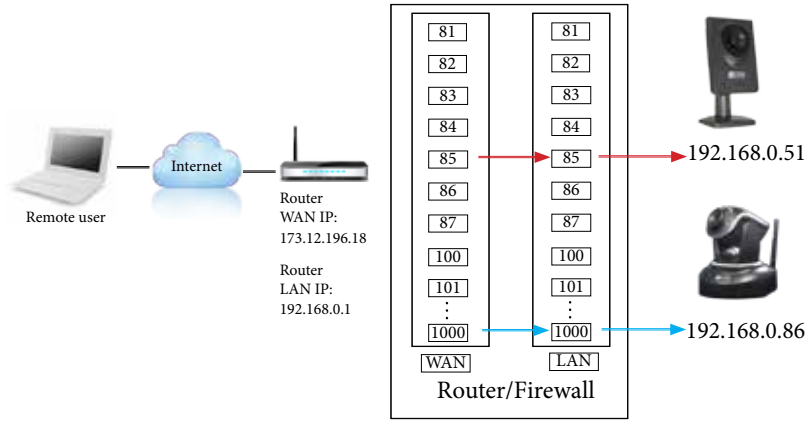
If you lost your administration password you will have to reset your camera to the factory defaults. Please press the reset button at the back panel of the camera for at least 15s! The camera needs to be connected to the power. After the reset all passwords are set to their default values:

Defaults	User Name	Password
Administrator	admin	instar
User	user	instar
Guest	guest	instar

4). How does port forwarding work?

As shown in below illustration map, the router's internal IP is 192.168.0.1. The camera gets an internal IP address from the router. Camera 1: 192.168.0.51 and Camera 2: 192.168.0.86. The router has a WAN IP given by the Internet Service Provider(ISP), in this case: 173.12.196.18 as an example. This router's WAN IP address changes every 24 hours by the ISP. So if you type in your internet browser: 173.12.196.18 today, you can visit your router but tomorrow it will be another address. That's why we use a fixed DDNS address and the DDNS server always is linked to the newest WAN IP of the router.

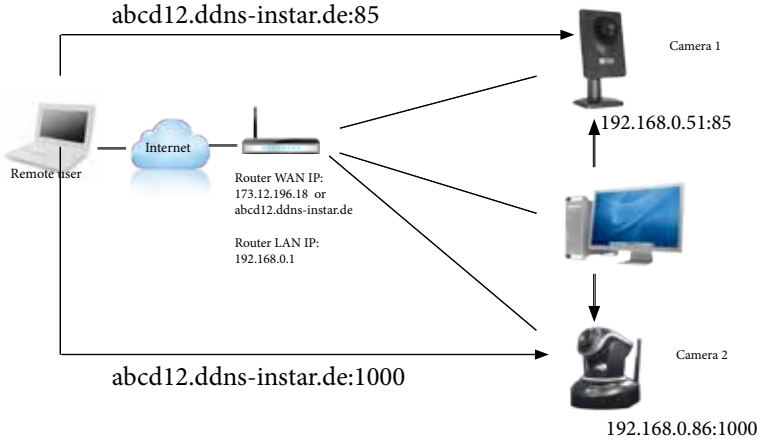
Your network is protected with ports. Each network device has a WAN and LAN ports in the router, serving like a firewall. You need to make this wall accessible for this network device if you want to visit it from outside your network. To do that, you need to make port fowarding (also called port mapping or NAT), by giving each camera a WAN port and a LAN port.



Depending on the user's preference, we recommend to give the same port number to the WAN port and LAN port of your camera. Or at least you can keep the LAN port of the camera as default port 80. We do not recommend to give WAN port of camera as 80 as that's the standard port of Router.

As an example, set port 85 for Camera 1 both the WAN port and LAN port, then Camera 1 will have

1). Internal LAN IP address of 192.168.0.51:85 (access from inside your LAN network)
2). Internet address: xxxx.ddns-instar.de:85 (the DDNS address: xxxx.ddns-instar.de is already installed in your camera in the factory production)



5) No access via the internet?

Your camera automatically sends its WAN IP address to the INSTAR DDNS server during the first start-up. Usually it takes about **30 minutes but in some cases,** it can take up to 12 hours before you can reach your camera via the ddns-instar address. Please note that you first have to set up a port forwarding rule in your router (s. **5.2.3 & above**). If you can still not access your camera, please change the HTTP (LAN) port of your camera (default 80) - to e.g. port 85 (s. **5.2.1**) in the webUI and in the router so the DDNS address will become - e.g. xxxxx.ddns-instar.de**:85**.

It is possible to access your camera remotely when it is installed behind a **UMTS, 3G** or **LTE** router. But please check with your ISP for a package that provides you with a static WAN IP address. As an alternative option, you can also check the included flyer ***Plug &Play*** for details on the P2P connection service. **The P2P service will work behind mobile access point as well as IPv6 internet connections!**

14 AVAILABLE ACCESSORIES

We are continously expanding our range of accessories. For a complete overview please refer to our accessory page on www.instar.de .

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www.instar.de